



North Carolina Department of Transportation Complete Streets Implementation Guide

The North Carolina Department of Transportation (NCDOT) Complete Streets Implementation Guide (Guide) is designed to assist NCDOT staff engineers, project managers and designers in implementing the Complete Streets Policy as adopted by the NCDOT Board of Transportation. This document provides comprehensive guidance for incorporating a complete streets approach into NCDOT's planning, programming, design, and maintenance processes.

Elements of this Guide:

- 1. Planning**
- 2. Project Development**
- 3. Resurfacing and Maintenance Activities**
- 4. Work Zone Accommodations**
- 5. Related Policies**
- 6. Cost Share**
- 7. Design Guidance**
- 8. Administration**

This Guide will be updated periodically as processes and procedures are refined, with a comprehensive review and update every five years, beginning in August 2024.

1. Planning

This section outlines the approach for ensuring Complete Streets elements are evaluated as a roadway project is planned, prioritized and programmed. Each proposed roadway project will include the preparation of a Complete Streets Project Sheet as detailed below. The Project Sheet will identify planned bicycle, pedestrian, and transit facilities and document any exceptions considered in the course of project development.

1.1 Adopted Plans

A Comprehensive Transportation Plan (CTP) is a mutually adopted transportation planning document that identifies the multi-modal transportation needs of a community or jurisdiction. The CTP may include and/or reference locally adopted plans for public transportation, bicycle facilities, pedestrian facilities and greenways. The adopted CTP will be considered the controlling plan for the identification of non-motorized facilities to be evaluated as part of a roadway project. Other locally adopted plans will be considered so long as 1) the planned facility addresses a transportation need and 2) the planned facility meets the design guidance standards referenced in Section 7.

1.2 Complete Streets Project Sheet (Prioritization 6.0)

For projects where a project sheet has yet to be developed as part of the CTP process, a Complete Streets Project Sheet will be used to document the types of pedestrian, bicycle, public transit, and other multimodal facilities to be evaluated in each roadway project. This sheet will be submitted during the Strategic Prioritization submittal process. The Complete Streets Project Sheet will carry forward as a key document in the Project Advancing Transportation through Linkages, Automation, and Screening (ATLAS) workbench, allowing any personnel to access the project later in development.

1.3 Complete Streets Project Sheet (within the CTP)

Comprehensive Transportation Plans (CTP) developed through NCDOT's Transportation Planning Division identify projects to address network deficiencies for motorists, pedestrians, bicyclists, and transit users. Complete Streets Project Sheets are being introduced into the CTP process. The Project Sheet outlines the recommended improvement, proposes a typical cross-section for roadway projects, explains the identified need for the project, provides current and projected traffic volume and capacity, identifies high-level environmental constraints and provides Complete Street recommendations. These sheets lay the foundation for Complete Streets facilities and serve as a starting point for projects selected for Strategic Prioritization submittal and carry forward as a key document in the project development phase.

1.4 Exceptions to Policy

The Complete Streets Project Sheet will capture requests and approvals of any exceptions to the Complete Streets Policy. Documentation of exceptions will reference the reason for such action, including unique site constraints, prohibition of pedestrians or bicyclists on the facility or a lack of existing or planned public transit service. Exceptions may be requested and considered any time throughout the process through the Complete Streets Program Administrator in the Integrated Mobility Division.

A multi-disciplinary Complete Streets Review Team will review all requests for exceptions to the Complete Streets Policy. The Review Team will consider the justification for the proposed exception as detailed on the Complete Streets Project Sheet and decide whether to recommend approval of the exception. Local governments may also request a Complete Streets Policy exception. All exceptions will be subject to review by the Complete Streets Review Team.

If the exception is not approved, the Review Team will initiate additional discussion with relevant parties, including the Project Manager, to explore options and alternatives for including appropriate multi-modal elements in the project. If necessary, the decision will be elevated to the Chief Deputy Secretary and/or Secretary for a final decision.

The Complete Streets Review Team consists of:

- Complete Streets Program Administrator,
- State Traffic Engineer or designee,
- State Roadway Engineer or designee,
- Integrated Mobility Division Director or designee, and
- Division Planning Engineer/Corridor Development Engineer or designee.

2. Project Development

The project development phase carries a project from concept to the specific roadway design to be constructed. The project development process considers the context, constraints and purpose of a project. All planned facilities will receive the same consideration as a project moves through the development process as identified by the Project Delivery Network (PDN) developed through the Integrated Project Delivery (IPD) update.

The Complete Streets Project Sheet will carry forward with a project through the project development phase. Project managers will use the Complete Streets Project Sheet early in project development to assist with determining facilities to be included in preliminary project design alternatives. The person/entity serving as the project manager varies depending on where the project is in the development process – this may be the entity that submits the project for prioritization, the NCDOT project manager or the Complete Streets Program Administrator.

The Complete Streets Project Sheet will be a ‘key document’ in the Project Advancing Transportation through Linkages, Automation, and Screening (ATLAS) workbench, allowing all personnel working on the project throughout the development process to refer to the information. Project ATLAS features a workbench tool to organize technical reports and data needed during project delivery. As part of the Workbench structure, the Project Manager will be responsible for documenting how complete street elements are reflected in the project design as identified by the Project Delivery Network (PDN) in 2IM1

2.1 Project Scoping

The Project Engineer will coordinate with NCDOT’s Integrated Mobility Division (IMD) on all programmed roadway projects as outlined by NCDOT’s Project Delivery Network (PDN). The Integrated Mobility Division will participate in scoping meetings and provide a written summary memo identifying facility recommendations and design guidance as appropriate. Complete Streets Project Sheets must be submitted with scoping requests sent to IMD for review.

2.2 Bridge Projects

The Complete Streets Project Sheet will be integrated into the Structures Management Planning Process for bridge replacements and refurbishments. Until specific procedures are complete, the Project Engineer will coordinate with the Integrated Mobility Division through scoping requests to incorporate complete streets elements in bridge designs for each bridge replacement project undertaken by NCDOT.

Due to the long useful life of bridges, on bridges with shoulder approach sections, where:

- a pedestrian need is identified through an adopted plan, sufficient deck space will be made available on the replacement bridge for future construction of sidewalks.

- a bicycle need is identified through an adopted plan, sufficient width for bike facilities will be provided.
- a multi-use path or sidepath need is identified through an adopted plan, sufficient width for the appropriate facility will be provided on and/or below the structure.

2.3 Equal or Better Performance of a Facility

Conditions often change between the time a project is added to the STIP and the when the project development process begins that may support the incorporation of a different type of bicycle, pedestrian, or transit improvement than shown in an adopted plan. NCDOT will review an alternative facility to the bicycle, pedestrian, or transit facility type proposed in the adopted plan upon the written request of the local representatives to the Project Engineer. The Project Engineer will consult with the Complete Streets Program Administrator to request the evaluation of an alternative facility. The decision of the Complete Streets Review Team will be documented in the Complete Streets Project Sheet.

An alternative facility will be evaluated by the Complete Streets Review Team based on:

- purpose and need of the proposed facilities
- current or anticipated land use context of the project area
- traffic count data
- design speed
- crash history
- topographic and geometric features of the roadway
- safety

3. Resurfacing and Maintenance Activities

3.1 Scheduled Resurfacing

Each year, a county-level resurfacing schedule is developed within each NCDOT Division. NCDOT Division staff will meet with local agencies to review the scheduled roadways and identify locations to evaluate Complete Streets improvements. These may include striping, markings and associated signage.

The following process will be followed to review resurfacing projects for complete street improvements:

- The Operations Program Management Unit will coordinate with the Integrated Mobility Division to identify planned facilities within the project limits suitable for implementation in conjunction with maintenance activities.
- Identified locations for Complete Streets improvements will be noted on a resurfacing list distributed to each unit of local government.
- The local government concurrence with recommended Complete Streets improvements will be provided to the local NCDOT Division in writing.
- Completed improvements will be incorporated into the Pedestrian and Bicycle Infrastructure Network (PBIN) and ATLAS upon completion.

3.2 Addition of Rumble Strips/Stripes

Rumble strips/strips are recognized as a safety countermeasure to reduce lane departure motor vehicle crashes. Rumble strips/strips, raised traffic bars, asphalt or concrete dikes, reflectors and

other such surface alterations where installed on roadways without full access control will be placed in a manner as not to present hazards to bicyclists or interfere with existing on-road bicycle facilities.

Rumble strips/stripes will not be extended across the shoulder of the roadway or other areas intended for bicycle travel. For shoulders suitable for bicycle use, refer to the authoritative design references outlined in Section 7 of this Guide. The Mobility & Safety Division in coordination with the Integrated Mobility Division will evaluate situations on a case by case basis where rumble strips/stripes recommended for safety may conflict with bicycle travel.

4. Work Zone Accommodations

The continuity of existing bicycle, pedestrian, and transit facilities will be maintained during construction and maintenance activities. During the construction phase of a roadway project, NCDOT's [Guidelines for the Level of Pedestrian Accommodation in Work Zones](#) must be followed.

5. Policy References

5.1 Eliminated Policies

The following policy documents are superseded by the Complete Streets Policy (2019):

- *Complete Streets Policy* (2009) and *Complete Streets Planning and Design Guidelines* (2012)
- *Bicycle Policy* (2009, update)
- *Pedestrian Policy Guidelines* (2001)
- *Administrative Action to Include Local Adopted Greenway Plans in the NCDOT Highway Planning Process* (1994)

5.2 Related Policies

The following policy documents include elements related to Complete Streets implementation:

- *Traditional Neighborhood Development Manual* (2000)
- *Bridge Policy* (2000)
- *Policy on Street and Driveway Access to North Carolina Highways* (2003)
- *Exceptions to Maintenance Responsibilities on State Highway System Streets in Municipalities* (2003)
- *Guidelines for Inclusion of Greenway Accommodation Underneath a Bridge as Part of a NCDOT Project* (2015)
- *Subdivision Roads: Minimum Construction Standards* (2016)

6. Cost Share

6.1 Complete Street Cost Share

The table below illustrates the funding responsibilities for Complete Streets incorporating bicycle and pedestrian and public transportation facilities.

Complete Street Cost Share			
Facility Type	In Plan	Not in Plan, but Need Identified	Betterment
Pedestrian Facility	NCDOT pays full	Cost Share	Local
On Road Bicycle Facility	NCDOT pays full	NCDOT pays full	Local
Separated Bicycle Facility	NCDOT pays full	Cost Share	Local
Greenway Crossing	NCDOT pays full	Cost Share	Local
Transit Facility*	NCDOT pays full	Cost Share	Local

* Facility Type Definitions can be found in the FAQ Document.

Bicycle, pedestrian, and public transportation facilities that appear in an adopted Plan directly or by reference as described in Section 1.1 will be included as part of the proposed roadway project. Facilities will be designed based on the authoritative design references outlined in Section 7 of this Guide in respect to the context of the project area. NCDOT will fully fund the cost of designing, acquiring right of way, and constructing facilities, not including elements identified as betterments as defined in Section 6.3.

NCDOT is responsible for the full cost of bridge replacements and bridge widenings, including approved pedestrian facilities on the structure. Bridges will not be included in the total project construction cost for cost-sharing purposes. Where an alternative facility requiring equal or lesser right-of-way is deemed to perform on an equal or better basis with concurrence by the Integrated Mobility Division, NCDOT will construct the alternative facility at no cost to the local jurisdiction.

6.2 Cost Share Formula

Bicycle, pedestrian, and transit facilities incidental to a roadway project where a need has been identified through the project scoping process but not identified in a adopted plan may be included in the project. Inclusion of these incidental facilities requires the local jurisdiction to share the incremental cost of constructing the identified improvements, based on the population thresholds below.

Cost Share Formula		
Jurisdiction Population*	Cost Participation	
	NCDOT	Local
> 100,000	80%	20%
50,000 to 100,000	85%	15%
10,000 to 50,000	90%	10%
< 10,000	95%	5%
<i>*For counties, the non-municipal county population, OSBM</i>		

NCDOT will estimate the incremental cost of proposed improvements. The percentage of the total cost share for these improvements will be set according to the population of the jurisdiction in the most recent [annual certified estimate of population](#) as determined by the state demographer, and executed through a local agreement.

6.3 Betterment

A roadway project betterment is defined as:

- A requested bicycle, pedestrian or public transportation improvement that exceeds the recommendations appearing in an adopted plan and/or exceeds the needs identified through the project development process; or
- Aesthetic materials and treatments, if this cost is determined to exceed the cost of standard construction materials; or
- Landscaping in excess of standard treatments as defined by NCDOT [Roadside Aesthetics Policy](#); or
- Lighting in excess of standard treatments as defined by NCDOT lighting policy.

The additional costs associated with inclusion of these elements in a roadway project are the responsibility of the local jurisdiction, executed through a local agreement.

6.4 Maintenance

Bicycle, pedestrian, and transit improvements inside a municipal boundary are subject to local maintenance. A local maintenance agreement will be executed prior to the completion of a construction project.

For bicycle pedestrian, and transit improvements outside of a municipal boundary where a county maintenance agreement is not executed to maintain the facility, NCDOT will maintain the facility after construction if the bicycle or pedestrian facility lies within NCDOT right-of-way.

7. Design Guidance

The NCDOT **Roadway Design Manual** will serve as the authoritative reference for Complete Streets design. Facility design guidance based upon project area context and cross-sections from the Manual will be used in each stage of project planning, prioritization and development.

American Association of State Highway Transportation Officials (**AASHTO**) guides will serve as authoritative references for street design and will be used in coordination with the NCDOT Roadway Design Manual.

National Association of City Transportation Officials (**NACTO**) guides will serve as supplemental references for facility design for projects in urban core, urban, and some suburban locations and will be used in coordination with the NCDOT Roadway Design Manual and AASHTO guides.

The Federal Highway Administration (**FHWA**) provides supplemental guidance on selecting appropriate bicycle and pedestrian facilities. These include guides on countermeasures, bikeways, raised medians and other facilities.

8. Administration of the Policy

The Complete Streets Core Technical Team (CTT) will meet quarterly to oversee the implementation of Complete Streets. The primary role of the CTT will be to review and maintain the Implementation Guide, recommend updates and process improvements and establish performance metrics for implementation. The CTT will direct the implementation of recommendations contained within the NCDOT Complete Streets 2.0 Recommendations document.

The CTT is comprised of representatives of the following units.

- ADA/Title VI Office
- Integrated Mobility Division
- Chief Deputy Secretary's Office
- Division of Highways
- Environmental Policy Unit
- Mobility & Safety
- Planning & Programming
- Rail Division
- Roadway Design Unit
- Technical Services
- Transportation Planning Division